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ABSTRACT

In 1984-85, the Mobil Corporation provided the New York City Board of Education with a grant for developing an instructional project related to the Public Broadcasting System series, "The Living Planet." This series explored the concepts of the balance of nature and the adaptations of various life forms to our changing planet. The Living Planet Program's budget was to cover the cost of instructional guides, four staff development sessions, and program evaluation. Its objectives included the following: (1) training teachers to integrate the series into their classroom curriculums; (2) providing instructional guides; (3) integrating home viewing of the series with classroom instruction in order to extend junior high and high school students' learning environments; (4) encouraging family participation in order to enhance students' learning experiences outside the classroom; and (5) regenerating junior high and high school students' interest in the scientific community. Participants in the staff development activities indicated that teacher guides and guest lecturers provided the most beneficial aspects of the training. In a post-program survey, junior high school teachers reported greater success with the program than high school teachers. They tended to use more classroom activities relating to the "Living Planet" and reported higher student viewer response rates. Implementation of the program in five other cities was found to be similar to that in New York. For further enhancement of the program, it is recommended that videotapes be obtained from the producers for viewing during class hours, and that the program should include student-parent orientation sessions to stimulate family participation. (Author/KH)

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THE LIVING PLANET:
A PORTRAIT OF THE EARTH
1984-85

OEA Evaluation Report

UD 024 485

EFF-8 (6-80)

EVALUATION SECTION REPORT

September, 1985

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THE LIVING PLANET: A PORTRAIT OF THE EARTH 1984-85

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THE LIVING PLANET: A PORTRAIT OF THE EARTH
EVALUATION SUMMARY, 1984-85

The Living Planet: A Portrait of the Earth was a twelve-part educational television series on the Public Broadcast Station which was shown from 7 p.m. to 8 p.m. on Sunday evenings from February 3 to April 21, 1985. The series was also broadcast by WNYE during school hours to facilitate teaching. The Living Planet Program exemplified the cooperation of the public and private sectors in involving students, teachers, and parents in science education. For the pilot year, 1984-85, a budget of $69,500 provided by the Mobil Corporation covered the cost of instructional guides, four staff development sessions and program evaluation.

The Living Planet series narrated by David Attenborough, explored the concepts of the balance of nature and the adaptations by various life forms to our changing planet. The series was designed to increase viewers' commitment to protecting and preserving both our physical environment and the natural ecological cycle.

The Living Planet Program's objectives included the following:

- training teachers to integrate the series into their classroom curriculums;
- providing instructional guides;
- Integrating home viewing of the series with classroom instruction about the series in order to extend junior high and high school students learning environments;
- encouraging family participation in order to enhance students' learning experiences outside the classroom; and
- regenerating junior high and high school students' interest in the scientific community.

An evaluation of The Living Planet Program was conducted by the New York City Board of Education's Office of Educational Assessment through the distribution of questionnaires to New York City participants and telephone interviews with administrators outside of New York City.

The project director estimated that about 500 teachers and administrators were trained in four one-day staff development seminars held at the Bronx Zoo. Documentation of attendance was available for a total of 293 junior high and high school teachers and school administrators (192 teachers, 100 assistant principals, and one principal). Participants were taken on guided tours of the zoo and attended lectures given by David Attenborough and by zoo personnel. In addition, they received teacher and student guides and other materials which provided both a preview of The Living Planet and suggestions about how to integrate the series into their existing

curricula. Training was designed to be applicable to all cultural institutions. Each group of participants was instructed to increase topic coverage with visitations to local cultural institutions. Certain participants were assigned "turnkey" positions; they were then responsible for training other teachers within their schools to use the program. Staff development participants indicated the teacher guides and guest lecturers as providing the most beneficial aspects of the training.

A total of 112 teachers, who attended the training sessions' responded to a post-program survey. Junior high school teachers reported greater success with The Living Planet than high school teachers. Junior high school teachers tended to use more classroom activities relating to The Living Planet (such as videotapes of the series during school hours) and they reported higher student viewing response rates.

Telephone interviews were conducted with assistant-superintendents, directors of science, a science advisor, and a science coordinator representing six city public school systems (Boston, Chicago, Detroit, New York, San Francisco and Washington, D.C.). Program implementation in those cities was similar to program implementation in New York City. The program was taught primarily in seventh to twelfth-grade science classes by teachers who had received specialized training. All of the coordinators were extremely positive about the program and all expressed a strong interest in working with more programs attempting to integrate television viewing with classroom instruction.

The following recommendations are offered for the further enhancement of program implementation:

- obtain videotapes from the producer for educational and student viewing during classroom hours.
- include student/parent orientation sessions to stimulate family participation.

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I. PROGRAM DESCRIPTION

The Living Planet: A Portrait of the Earth was a twelve-part educational series on the Public Broadcasting System (P.B.S.) which was shown from 7 p.m. to 8 p.m. on Sunday evenings from February 3 to April 21, 1985. The series was also broadcast by WNYE during school hours to facilitate teaching. In 1984-85, the Mobil Corporation provided $69,500 to the New York City Board of Education to offer staff development, produce instructional materials to accompany the broadcasting of the series, and evaluate the program's impact.

The Living Planet series, narrated by David Attenborough, explored the concepts of the balance of nature and the adaptations by various life forms to our changing planet. The series was designed to increase viewers' commitment to protecting and preserving both the physical environment and the natural ecological cycle.

The Living Planet program objectives included the following:

- training teachers to integrate the series into their classroom curriculums;
- providing instructional guides;
- integrating home viewing of the series with classroom instruction about the series in order to extend students' learning environments;
- encouraging family participation, in order to enhance students' learning experiences outside the classroom; and
- regenerating student interest in the scientific community.

Four one-day staff development seminars were held at the Bronx Zoo. The project director estimated that about 500 teachers and supervisors were

trained. Documentation of attendance was available for a total of 293 school administrators and science and social studies teachers (selected by the school's science or social studies department chairperson) representing junior high and high schools throughout the city. The first seminar was held on October 30, and repeated on November 1, 7, and 8, 1984. Participants were taken on guided tours of the zoo and attended lectures given by David Attenborough and zoo personnel. In addition, participants received instructional materials (Teacher Guide and Student Guides) which offered a preview of The Living Planet series and suggestions about how to integrate the series into their existing curriculums. These guides were developed by staff of the Division of Curriculum and Instruction. Certain participants were designated "turnkeys"; they were responsible for training other teachers within their schools to use the program. The training was designed to be applicable to all cultural institutions. Each group of participants was instructed to increase topic coverage with visitations to local cultural institutions.

A Teacher Guide (Appendix D) was designed to provide assistance to teachers in selecting and implementing activities relating to The Living Planet which met the needs and interests of their students. The guide also offered suggestions on how to integrate the series into specific science classes. The Teacher Guide was divided into individual chapters in the order of the individual series episodes. Each chapter summarized the episode. In addition, an "Objectives" section outlined what kinds of information teachers could reasonably expect their students to have learned about the episode; a "Previewing" section suggested specific activities designed to help students

to discover the basic principles of the episode; and a "Follow-up" section offered homework ideas, test questions, and activities for individual and group projects.

Teachers in the subject areas of science and social studies were the predominant participants in the program. In addition to the participants at the training sessions, the curriculum and instructional specialist of the New York City Board of Education's Science Unit distributed Teacher and Student Guides to every junior high and high school teacher (5,283).

A Student Guide (Appendix E) was designed for use while viewing the series at home. Each chapter contained a brief summary of an episode, a list of key vocabulary words and their definitions, program-related questions, and some ideas for home discussion with participating family members.

This report presents an evaluation of the program with emphasis on its implementation in classrooms of teachers attending staff development sessions. This program description is followed by a summary of the evaluation methodology. Findings are presented and conclusions and recommendations are offered in the final chapter.

II. EVALUATION METHODOLOGY

The Office of Educational Assessment (O.E.A.) conducted an evaluation of The Living Planet Program in New York City. The evaluation consisted of three components: a post-training questionnaire given to participants after their one-day sesson, a post-program survey which was mailed to the training participants, and a survey of the coordinators of the Living Planet Program in the six cities where the program was implemented. Program-developed reaction forms (17 multiple choice and four open-ended items) concerning the quality and usefulness of the training were distributed to participants after the four staff development sessions (See Appendix A.) In addition, a questionnaire developed by O.E.A. was mailed to 270 participants in the staff development program immediately following the broadcasting of the final episode of the series. (See Appendix B.) The 17-item, multiple choice questionnaire asked program participants to rate and comment on their use of the Living Planet activities in their classrooms. This questionnaire included the following questions:

- Was the teacher training applicable to classroom instruction?
- How many of the trained teachers and their students participated in the program?
- Did the program enhance the regular curriculum?
- Were additional follow-up activities conducted? and
- What was the student's response to the program?

Telephone interviews were conducted with assistant superintendents, directors of science, a science advisor, and a science coordinator representing

six city public school systems (Boston, Chicago, Detroit, New York, San Francisco and Washington, D.C.) to document their methods of program implementation. Interviewees were asked several open-ended questions relating to the application of the program in their cities and any recommendations they had for its future use.

Overall, the evaluation focused on the following four areas:

- determining the impact of staff development on teachers' ability to integrate program material into the classroom;
- determining which activities were used most effectively and frequently in integrating program material into the classroom curriculum;
- determining how students and teachers responded to the program and;
- determining how the program was implemented in other city school systems, as well as how participants in other cities responded to the program.

III. FINDINGS

STAFF DEVELOPMENT

Training seminars at the Bronx Zoo were attended by 192 teachers (124 junior high school, and 68 high school teachers), 100 assistant principals (61 junior high school and 39 high school pr nc 1) and one junior high school principal. Post-training reaction forms developed by the Science Unit of the Division of Curriculum and Instruction were distributed to participants immediately following each session to determine their opinions regarding the quality and usefulness of training.

Eighty-one percent* (220) of the respondents to the post-training questionnaire reported that their main reason for participating was to learn how to integrate The Living Planet Program into their classroom curriculum. The quality and usefulness of training was rated as highly favorable by 92 percent (269) of the group. Almost 90 percent stated that they would be inclined to use visits to the zoo as a classroom resource in the future. All respondents agreed that the program's integration of home television viewing, cultural resources and instructional guides would enrich students' learning experiences. The only recommendation for improvement was that the training seminars be expanded and follow-up sessions be provided to offer in-depth coverage of materials.

INSTRUCTIONAL GUIDES

Living Planet instructional guides for teachers and students were prepared by the New York City Board of Education's Division of Curriculum and

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* Valid percents are used; missing responses are eliminated from the total number of respondents for any given question.

Instruction. A section of the post-program survey distributed to teachers at the end of the series focused on their use of the Teacher Guide. Respondents were asked to rate the guide on its instructional merit and compatibility with students needs. The respondents to the post-program survey represented 26 junior high schools and 28 high schools. Seventy-five percent of those who responded to the evaluation survey were teachers (50 junior high and 39 high school teachers). The remaining 25 percent of respondents were school administrators (21 junior high and eight high school administrators). The Teacher Guide was reported by 102 respondents to have been very useful for planning lessons. Teachers reported that activities used in classroom instruction were class discussions (93%); written reports (58%); individual projects (23%); group projects (12%); and homework assignments (11%), and videotapes.

Students were given the Student Guide to use while viewing the series at home. On the post-program survey, teachers reported that the students' response to home viewing of The Living Planet, which was supposed to include use of the Student Guide, was generally unethusiastic, and family participation at home did not appear to have been widely practiced. Eighty-six percent (102) of the teachers, however, rated the Student Guide favorably; they found the Guide especially helpful concerning homework activities.

PROGRAM PARTICIPATION

The nature of program participation was also ascertained through the post-program survey. According to respondents, the Living Planet curriculum was taught primarily (92%) in basic science and biology classrooms. The mean number of teachers teaching the Living Planet course within a school was six. Each teacher who used the course used it with approximately four classes. Seventy-six percent of the respondents reported that The Living Planet

Program was implemented as an ancillary curriculum to their schools' existing science curriculum; ten percent reported that they implemented only portions of the programs, and ten percent offered the program as an elective course.

Response to the post-program survey shows that The Living Planet Program was used most extensively with seventh and eighth graders. Of the 969 classes indicated on the post-program survey, 47 percent (451) were seventh or eighth grade classes. Of the 180 teachers who attended staff development, over half (124), taught at the junior high level. Administrative support for the program was also more visible at the junior high level that at the high school level. Thirty-four percent (21) of J.H.S. administrators who completed training followed-up on the post-program survey sent out in May. Only 21 percent (8) of the high school administrators followed-up. In addition, 57 percent of the junior high school teachers rated the teacher training very useful, while only 30 percent of high school teachers indicated the same. Junior high school teachers (45%) were also twice as likely as high school teachers (23%) to have required their students to watch the series. Fifty-six percent of junior high school teachers reported a student viewing response of 50 percent of the episodes, while only 33 percent of high school teachers reported a viewing rate that high. In general, junior high school teachers (88%) perceived students reactions to the program as favorable. Although both groups indicated that the course content was appropriate for their students' intellectual levels, 63 percent of the junior high school teachers believed the program significantly enhanced their classroom environment. Only 47 percent of high school teachers reported any improvement to their previous teaching methods. Junior high respondents (86 percent) reported greater overall success with the program than high school respondents (57 percent), in that, integration of the

television program with classroom instruction was used effectively and student response to the program was positive.

Administrators (24) in general, rated the program more favorably (82%) than teachers. Participation at the administrative level may have played a significant role in teachers motivation to implement the course; program implementation appeared to have been more extensive at the junior high school level where administrators actively supervised the teachers. Implementation at the high school level seemed more or less an elective choice for the teachers. Sixty-two junior high and thirty-nine high school administrators attended the staff development training seminars. Of this group, twenty-one junior high representatives and eight high shool representatives (97 percent) stated that they supported the idea of incorporating television programs into classroom learning and that they would like to work with similar projects in the future.

Home viewing of the series was designed to extend students learning environments outside the classroom. Family viewing and participation was also encouraged. In some classes, students were required to watch the series (36%), while in others students were only encouraged to do so (55%) (often with incentives such as the opportunity to receive extra credit). Teachers reported that students who were required to watch the program exhibited varying viewing response rates. One-quarter of the teachers indicated each of the four following categories: 0 - 24 percent, 25 - 49 percent, 50 - 74 percent, and 75 - 100 percent. When home viewing was not required the overall viewing rates dropped to under 25 percent. Overall, regardless of the instructions given to students, only 47 percent of the teachers stated that their students actively participated in home viewing of

the series. Students who did actively participate, however, were perceived by teachers to have been extremely enthusiastic.

Some teachers (6) showed videotapes of the series during school hours to reinforce and highlight particularly relevant aspects of the program. On the evaluation questionnaire, teachers were asked to give their general comments on the program. It was observed that students seemed to respond more favorably to the series when viewing took place in class. Students seemed to enjoy and understand the material much better than when they were required to watch the series only at home. Teachers also stated that use of viedotapes allowed them to edit and show only those segments in the series which were relevant to the class.

Reasons cited for poor student response to home viewing of the series included the following:

- the one hour length of the program was too long and students became bored;
- David Attenborough used vocabulary that was too sophisticated and complex; and
- the series was situated against top-rated network shows.

Teachers suggested that home viewing rates would increase if students and parents participated in their own Living Planet orientation workshops. The television series was commended for its visual scope which allowed students to experience events that could not be fully appreciated using textbooks.

LIVING PLANET IN OTHER CITIES

Public school administrators in Boston, Chicago, Detroit, San Francisco, and Washington, D.C. also used the Living Planet series in their schools. Telephone interviews were conducted with the science coordinators in these five cities and with the New York City coordinator concerning implementation of the program in their respective cities.

The Living Planet curriculum was most often taught by science teachers in these cities, although it was also taught by social studies teachers. The estimated number of students receiving instruction varied from 1,400 (San Francisco) to 430,000 (Chicago). All of the science coordinators stressed that efforts had been made to integrate the program into as many classrooms as possible. Table 1 shows estimated teacher and student participation for each city.

Except in Boston and Detroit, all participating teachers received training before the start of the program. Training generally consisted of one orientation session for teachers; in Washington, D.C., and Chicago, students were also invited. (New York's training program was the most extensive.) David Attenborough, the narrator of the series, was Present at the Chicago, New York City, and Washington, D.C. training seminars. None of the science coordinators reported conducting any follow-up training.

The Living Planet curriculum was taught primarily in grades 7-12 in other cities, although in Washington, D.C. and Detroit, students in grades 3-6 also participated. Generally, teachers in these cities used The Living Planet series as an ancillary course to their existing classroom curriculum. The Teacher and Student Guides were perceived as very useful, easily adaptable, and well-organized. The Washington, D.C. science coordinator reported, however, that some material in the Student Guide was too advanced for elementary level students.

Students were able to view the series during school hours in all of the cities except Chicago, where video equipment was not available in the schools. As in New York City, other program activities commonly used included class discussions, written reports and field trips. The series has

Table 1

Program Participation by City,
Living Planet Program, 1984-85

City	Estimated Teacher Participation	Estimated Student Participation	Subject Area
Boston	60	5,000	Science
Chicago	12,700	430,000	Science
Detroit	6,000	180,000	Science, Social Studies
New York	1,409	169,070	Science, Social Studies
San Francisco	40	1,400	Science
Washington, D.C.	225	7,000	Science

- The cities with the largest numbers of students participating were Chicago, Detroit, and New York.
- In all cities the program was taught in science classes and in Detroit and New York it was also taught in social studies classes.

been videotaped for future use in Boston and Detroit. In Washington, D.C. and Chicago, science coordinators have made arrangement with local television stations to broadcast the program during school hours in Fall, 1985. All of the coordinators expressed a strong interest in working with more programs which integrate television viewing with classroom instruction.

IV. CONCLUSIONS AND RECOMMENDATIONS

The Living Planet Program was well received and used by science, biology, and social studies teachers who attended staff development sessions. Staff development was seen as extremely useful and applicable to classroom instruction.

Student response to The Living Planet program was generally positive. According to teachers, students were less positive, however, when they viewed the program only at home and not in the classroom. Viewing rates were higher for junior high school than for high school classes. Junior high school teachers integrated more activities relating to The Living Planet into their teaching than did high school teachers. Teachers believed that use of videotapes during school hours increased students' understanding of the course content. It was suggested that one way to encourage more student (and parent) participation would be to design student/parent orientation workshops. In general, junior high school teachers reported greater success with the program than high school teachers. Administrative support was more evident at the junior high level which may have contributed to junior high school teachers more extensive use of the program.

Nearly all participants (97 percent) said that they were interested in working with more programs which integrate outside television viewing with classroom activities. Videotapes of The Living Planet series will be available next year for use in New York City Public School classrooms. The cities of Boston, Chicago, Detroit, San Francisco, and Washington D.C. also used The Living Planet Program in their schools. Classroom instruction and teacher training methods appeared to have been extremely similar in all the

participating cities.

The following recommendations are offered for the further enhancement of program implementation:

- obtain videotapes from the producer for educational distribution and student viewing during classroom hours.
- include student/parent orientation sessions to stimulate family participation.

LIVING PLANET
STAFF DEVELOPMENT PROGRAM
PARTICIPANT REACTION FORM

Appendix A

School # and District # or High School Name_____

Grade level or subject_____

Other B.O.E. division or office (Specify)_____

Indicate your groups by noting the room in which you STARTED the training at the Zoo:

Yellow admittance letter/Educational Services Building (Auditorium)_____
Blue admittance letter/World of Birds (Whippoorwill Theater)_____
Pink admittance letter/Flamingo Pub _____

PLEASE CHOOSE THE NUMBER OF THE RESPONSE WHICH BEST DESCRIBES YOUR OPINION AND INSERT IT IN THE SPACE ON THE RIGHT.

01. What is your current position?

1. Teacher
2. Assistant Principal
3. Principal
4. Other (please specify)_____

02. What is the most important reason you took this training?

1. I thought taking the training would be useful or helpful to me in my teaching or supervisory position
2. I was asked to attend this training by a supervisor or administrator
3. I thought that the training would be valuable to me in the future
4. I thought taking the training would be useful in learning how to integrate The Living Planet film series with the zoo collection and the secondary level science curriculum_____

03. I found the day's training to be:

1. of little or no interest to me
2. only slightly interesting
3. somewhat interesting
4. very interesting _____

04. For my needs, what we were taught at the zoo:

1. was not relevant
2. was only slightly relevant
3. was moderately relevant
4. was highly relevant _____

05. How useful do you think what you learned in the training will be in your immediate instructional or supervisory work?

1. not at all useful
2. only slightly useful
3. moderately useful
4. very useful _____

06. How well do you think that the training sessions were organized?

1. very poorly
2. poorly
3. fairly well
4. very well _____

07. How would you rate the quality of classroom instruction in the training?

1. very poor
2. poor
3. good
4. very good _____

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08. How would you rate the quality of tours that were a part of the training?

1. very poor
2. poor
3. good
4. very good

_____

09. Given the time limitations in covering a broad spectrum of topics, do you feel that on the whole, the material was well covered?

1. no, coverage was very poor
2. no, coverage was poor
3. yes, coverage was good
4. yes, coverage was excellent

_____

010. What is your overall assessment of this training?

1. very poor
2. poor
3. good
4. excellent

_____

011. If I were asked to be a "turnkey" trainer for the Living Planet program, the training I received would be:

1. not at all useful
2. only slightly useful
3. moderately useful
4. very useful

_____

012. Has your perception of the usefulness of staff development changed as a result of this training session?

1. I feel more negative about staff decelopment
2. My opinion hasn't changed, we need it.
3. My opinion hasn;t changed, we don't need it.
4. I'm slightly more in favor of staff development
5. I feel positively in favor of staff development

_____

013. Have you ever attempted to integrate "at home" viewing of a television program with your classroom teaching?

1. no, never
2. rarely
3. sometimes
4. frequently

_____

014. Do you find the combination of a television program, a cultural resource, and prepared packets of materials useful in enriching classroom instruction?

1. no, not at all useful
2. yes, slightly useful
3. yes, useful
4. yes, very useful

_____

015. Have you ever participated in a staff development program outside of the N.Y.C.B.O.E.? Please list institutions

1._____

2._____

3._____

4._____

016. How does this training compare with other staff development programs you attended?

1. poorly
2. about the same
3. well
4. much better

_____

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017. Have you used the zoo as a resource for your classroom teaching?

1. no, never
2. sometimes
3. frequently
4. always

_____

018. As a result of this training would you be more inclined to use the zoo as a classroom resource?

1. no, not at all
2. perhaps
3. yes, somewhat
4. yes, definitely

_____

019. What were the most useful aspects of the training?

_____

_____

_____

_____

020. What were the least useful aspects of the training?

_____

_____

_____

_____

021. Do you have any suggestions for improving this training? please include any ideas which would improve this session.

_____

_____

_____

_____

To help fascilitate the per diem substitute payroll please return the completed evaluation from as soon as possible to:

Ira B. Kanis
Science Unit
131 Livingston Street - Rm. 414A
Brooklyn, N. Y. 11210

Thank you

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OFFICE OF EDUCATIONAL ASSESSMENT
INSTRUCTIONAL SUPPORT EVALUATION UNIT

Appendix B

LIVING PLANET QUESTIONNAIRE

The Office of Educational Assessment is interested in your perceptions of The Living Planet television series, the training program which you attended, and the success of the instructional activities related to this series. Your responses will help determine whether this type of effort will be offered in the future. Please choose the single answer which best describes your views. Try to answer all questions. Return the completed questionnaire in the enclosed envelope by May 1, 1985. Thank you for your cooperation.

DO NOT WRITE IN THIS COLUMN

School _____ ____ ____ ____ ____ ____ (1-5)

Subject Specialty _____ ____ ____ (6-7)

1. Did you conduct any instructional activities related to the Living Planet television series (including suggesting that students view the episodes)? ____ (8)

   1. _____ Yes, I conducted instructional activities related to the series.

   2. _____ No, I did not conduct instructional activities related to the series.

   If Yes, briefly list these activities in the space below. Then complete the remaining questions.

   If No, briefly state why you did not conduct such activities. Then skip the remaining questions and return the questionnaire using the enclosed envelope.

   _____

   _____

   _____

   _____

2. How many of your classes did you involve in The Living Planet instruction or activities?

Grade	Number of Classes	
6	____	____ (9)
7	____	____ (10)
8	____	____ (11)
9	____	____ (12)
10	____	____ (13)
11	____	____ (14)
12	____	____ (15)

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3. How useful do you think what you learned in The Living Planet training was for your instruction or supervision of student activities?

_____ 1. not useful at all
_____ 2. minimally useful
_____ 3. moderately useful
_____ 4. very useful

___ (16)

4. What was the most useful aspect of this training?

_____

_____

_____

5. What was the least useful aspect of this training?

_____

_____

_____

6. How did you use The Living Planet series and materials?

_____ 1. as an ancillary curriculum to an existing curriculum
_____ 2. as an elective course
_____ 3. I never conducted instructional activities related to the series
_____ 4. other (please specify) _____

_____

___ (17)

7. How would you rate the usefulness of the teacher's guide?

_____ 1. not useful at all
_____ 2. minimally useful
_____ 3. moderately useful
_____ 4. very useful

___ (18)

8a. Were student guides for the Living Planet series distributed to all students with whom you used the curriculum?

_____ 1. yes
_____ 2. no

___ (19)

If no, why not? _____

_____

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8b. How would you rate the usefulness of the student guide?

_____ 1. not useful at all
_____ 2. minimally useful
_____ 3. moderately useful
_____ 4. very useful

___ (20)

9. Which student activities were conducted in relation to The Living Planet series? (check all that apply)

_____ 1. class discussion
_____ 2. group projects
_____ 3. individual projects
_____ 4. written reports
_____ 5. none
_____ 6. other (please specify) _____

_____

___ (21)

10. To what degree did activities related to The Living Planet series enhance the content of the regular curriculum?

_____ 1. greatly enhanced
_____ 2. moderately enhanced
_____ 3. somewhat enhanced
_____ 4. not at all enhanced
_____ 5. not applicable

___ (22)

11. What was student reaction to integrating home viewing of television with classroom work?

_____ 1. very negative
_____ 2. somewhat negative
_____ 3. neither positive nor negative
_____ 4. somewhat positive
_____ 5. very positive
_____ 6. not applicable

___ (23)

12. What was student reaction to the content of The Living Planet curriculum?

_____ 1. very negative
_____ 2. somewhat negative
_____ 3. neither positive nor negative
_____ 4. somewhat positive
_____ 5. very positive
_____ 6. not applicable

___ (24)

13. How appropriate was the content of the television program for your students' intellectual level?

_____ 1. not at all appropriate
_____ 2. minimally appropriate
_____ 3. moderately appropriate
_____ 4. very appropriate

___ (25)

14. Were students required to view the program episodes or was viewing voluntary?

_____ 1. all episodes required
_____ 2. all episodes voluntary
_____ 3. some episodes required, some voluntary
_____ 4. other (please specify) _____

___ (26)

_____

15. What is your estimate of the student viewing response rate?

_____ 1. 75% to 100% of the class viewed consistently
_____ 2. 50% to 74% of the class viewed consistently
_____ 3. 25% to 49% of the class viewed consistenly
_____ 4. 0% to 24% of the class viewed consistently
_____ 5. can't estimate

___ (27)

16. Overall, how successfully was the television program and classroom work integrated?

_____ 1. not at all successfully
_____ 2. minimally successfully
_____ 3. moderately successfully
_____ 4. very successfully
_____ 5. not applicable

___ (28)

17. Would you like to see more efforts which attempt to integrate television programs like The Living Planet and classroom instruction?

_____ 1. yes
_____ 2. no

___ (29)

Why? _____

_____

THANK YOU FOR YOUR COOPERATION.
PLEASE RETURN THE COMPLETED QUESTIONNAIRE USING THE ENCLOSED ENVELOPE.

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Position: _____

OFFICE OF EDUCATIONAL ASSESSMENT
INSTRUCTIONAL SUPPORT EVALUATION UNIT

Date: _____
Time Start: _____
Time Ended: _____

City: _____

THE LIVING PLANET
TELEPHONE SURVEY

Hello _____, (Position: _____)

My name is _____ and I'm calling from the New York Public Schools, Office of Educational Assessment. Our office is responsible for the evaluation of The Living Planet Program in New York City. As a part of our investigation, we are surveying key staff in Boston, Chicago, Detroit, San Francisco, and Washington D.C. The purpose of the survey is to find out how the program is being implemented in each city. I have a few short questions I'd like to ask you that will take about ten minutes.

First:

1. How many teachers in your city used the Living Planet program as a basis for classroom instructional activities? _____

   Which content areas do they teach: _____

2. Overall, how many students are participating? _____

   Which grade levels: _____

3. Did the teachers have any training or orientation workshops before the program began? No ____ Yes ____ If yes, how many workshop were held? ____

   Briefly describe the training: _____

   _____

   _____

   _____

   _____

   (Interviewer be sure to include):

   a. Number of teachers participated: _____

   b. Where held: _____school _____zoo

      other: _____

   c. Any follow-up training? Yes ____ No ____

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d. Any other communications with teachers? Yes ____ No ____

_____ _____

_____

4. How are teachers using the Living Planet series and materials?

_____ as an ancillary curriculum to an existing curriculum

_____ as an elective course

_____ do not use the activities related to the series

_____ other (specify): _____

5. How would you rate the usefulness of the teacher's guide?

_____ not useful at all comments: _____

_____ somewhat useful _____

_____ moderately useful _____

_____ very useful _____

_____ don't know

6. Were students given the student guide?

_____ Yes

_____ No, why not: _____

_____

_____

7. How would you rate the usefulness of the student guide?

_____ not useful at all comments: _____

_____ somewhat useful _____

_____ moderately useful _____

_____ very useful _____ _____

_____ don't know

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8. Are the students watching the program at home or are they watching a video tape during school hours? _____

9. Were students required to view the program episodes or was viewing voluntary?

_____ all episodes required _____ all episodes voluntary

_____ some episodes required, some voluntary

_____ Other _____

_____

10. Which student activities were conducted in relation to the Living Planet series? (Check all that apply)

_____ class discussion _____ written reports

_____ group projects _____ none

_____ field trips _____ don't know

_____ individual projects

Other: _____

_____

_____

_____

11. Have you personally observed any of the Living Planet activities in the classroom?

_____ Yes _____ No

12. Does your school district have plans to implement this program in the fall through replaying video tapes of the series?

_____ Yes _____ No

13. Would you like to see more efforts which attempt to integrate television programs and classroom instruction?

_____ Yes _____ No

14. Is your school district conducting an evaluation of the Living Planet Program?

_____ Yes _____ No

(If Yes) Does it include:

_____ survey of teachers receiving training or orientation

_____ survey of teachers who are implementing the program

_____ pre and posttesting of students Test: _____

_____ unit testing of students Test: _____

_____ survey students on attitudes/opinions about the program

_____ Other: _____

_____

_____

15. (If there is an evaluation...) We would like to have a copy of your evaluation findings. (Send to Robert Futterman, Office of Educational Assessment, New York Public Schools, 110 Livingston Street, Room 742, Brooklyn, New York 11201)

_____, thank you for your time and your frank answers to these questions, (and the materials you will send to our office). You have been very helpful in our assessment of the Living Planet Program.

ADDITIONAL COMMENTS

_____

_____

_____

_____

_____

_____

O.E.A. 3/85

THE SKY ABOVE

EPISODE 7 THE SKY ABOVE

What would happen if, magically, gravity on earth were to cease? David Attenborough hurtles earthward in zero gravity in an astronaut-training aircraft to demonstrate the link between gravity, the earth's atmosphere, and life on earth.

This program examines parachuting spiders, skydiving frogs, fluffy seeds, and winged seeds that spin like helicopter blades.

The peregrine falcon uses gravity as it speed-dives at its prey, while the bearded vulture drops animal bones from high above to be smashed into edible fragments on the rocks below.

The atmosphere is the ocean of air in which all life on earth exists. With the program's guide, the audience explores the atmosphere's upper layers. We see the indescribable *aurora borealis* and an unforgettable red sunset. From an open basket of a high-altitude balloon, four miles above the earth's surface, David braves the *lack* of elements and searches for tiny organisms. And we watch as the balloon swells in the thinning atmosphere despite the fact that nothing has been added to it.

Finally, the atmosphere's huge and complex weather patterns are illustrated with special time lapse photography taken from a satellite 22,500 miles above the earth. A seemingly harmless, puffy cloud is observed as it forms powerful storm clouds that could produce hailstones, lightning, or a tornado — the most powerful weather phenomenon of all.

The program concludes on an optimistic note. Powerful, uncontrollable weather may bring destruction, but it brings life also, because rain from such weather yields almost pure water . . . and water is necessary for life.

OBJECTIVES The students will be able to:

- explain how the sun's heat helps to produce air currents
- explain the formation of rain, hail, and tornadoes
- provide examples of seed adaptation for wind dispersal
- describe the processes of physics that permit *lift*
- explain how birds, such as the condor, use *thermals* as an assist to flight
- relate the air currents of the earth to weather conditions
- define weight, gravity, and volume
- compare the characteristics of solids, liquids, and gases

PREVIEWING

1. You may want to review the following vocabulary. (Italicized words are also listed with definitions in the student guide.)

   atmosphere, *gravity, lift, pollen, spore, thermals, tornado,* volume, weight

2. Air has weight and volume. Use a balance to weigh a deflated, large balloon. Record the weight. Inflate the balloon and weigh it. Record the weight. Have the students compare and explain their results.

   To illustrate volume, place a dry tissue in the bottom of a glass tumbler. Invert the glass tumbler and submerge it into a larger, clear container filled with water. Is the tissue getting wet? Remove the submerged glass tumbler. Remove the tissue. Is it wet? Explain.

3. Use a convection box to illustrate how heat produces currents of air. Hold a piece of ignited, smoking paper over the glass chimney that is not above the candle. What do you observe happening to the smoke? Light the candle, and repeat the process, continuing to hold the smoking paper above the chimney without the candle. What are your observations? Why?

   The students should be able to explain that the heat from the candle heated the air above it, creating an upward convection current. The colder air from outside the box replaced the less dense, warmer air, which flowed up the chimney and out of the box. Apply this principle to the film.

FOLLOW-UP

After discussing the program and viewing questions with the students, you may assign activities such as the following:

1. Use a prism and a flashlight to illustrate the refraction of white light and its dispersion into a spectrum. Have the students trace the path of a light beam through the prism. Identify the sequence of colors that appears on a screen behind the beam that passes through the prism. Explain that rainbows may appear after rainstorms when water droplets are suspended in the air. Depending upon the cloud conditions, each water droplet has the potential to act as a small prism with a mirror behind the prism to reflect the light toward the earth.
2. Demonstrate *lift* by observing how motion reduces pressure. Take a strip of paper about one inch wide and eight inches long. Place one end against your lower lip so it can be blown across. What do you observe? Why?
3. Trace weather patterns in your community by cutting out weather maps from local newspapers and relating air mass fronts to resulting weather. Compare and relate national and local weather patterns. Explain how hurricanes, tornadoes, and hail develop.
4. Explain why *gliders,* such as the albatross, favor the use of cliffs to begin their flight.
5. Describe how the peregrine falcon uses gravity to hunt prey.
6. Explain how the *aurora borealis* is created.
7. As a library assignment, investigate the history of flight. Some students might report the historical sequence of events, while others might explain the scientific principles and illustrate how the principles were applied. A few students might compare the actual structure of different life forms to technological applications of the same scientific principles.

JUNGLE

EPISODE 4 JUNGLE

David Attenborough begins a journey from the top of a huge silk cotton tree down through the layers of the jungle environment. Here conditions are stable. There is continual warmth and moisture with little change in temperature, little variation in seasons. Because such favorable conditions have continued over millions of years, more forms of plants and animals live in the jungle than in any other environment. Every niche is filled. The pigmy marmoset eats the sap of the trees. Some frogs carry their young tadpoles to tiny pools of water trapped by the leaves of plants. And a snake has developed the ability to glide through the air.

Most, but not all, the living creatures are found in the jungle's canopy, a sea of green leaves, which is 40 to 50 meters above ground level. Below the canopy, many birds travel from one part of the forest to another. By flying at this level, they escape the eagles patrolling above. Here in the understory the leaves are not so thick. We see bare trunks of trees, hanging vines, and a few species of low trees adapted to dim light. Below this layer, the jungle floor appears.

It is hot and humid; very little light has filtered this far down. The forest floor is covered with a thick blanket of decaying leaves. One would not expect to see flowers. But it is here that the parasite Rafflesia produces the biggest flower on earth, *bunga banka* — the corpse flower. The soil is not fertile. Nutrients are used too quickly by the abundant plant growth; and frequent rains also wash away minerals from the soil. As the molds, fungi and bacteria decompose the blanket of dead vegetation, nutrients are returned to the soil. Without this process, the life of the jungle could not continue. Termites, too, are vital to the life of the jungle. They eat the dead wood and, in turn, are food for other creatures.

Each plant and animal has its niche, but the inhabitant who makes the most varied and extensive use of the jungle is man. The program shows how the Waorani Indians have used the jungle for all their needs, living in harmony with their environment for thousands of years.

VOCABULARY

canopy	top layer of the tallest trees in the forest
surface tension	the property of a liquid surface that apparently forms a thin elastic film. It is caused by unequal molecular attractive forces near the surface.
decomposers	fungi and bacteria that feed on the remains of organisms
parasite	a plant or animal that lives in or on an organism of another species from which it derives food or protection without benefiting the host, and usually doing harm
saturated	filled to capacity

VIEWING QUESTIONS

1. What factors account for the large variety of plant and animal life found in the tropical rain forest?
2. How does the jungle canopy illustrate *phototropism?*
3. What is the importance of the leaves' glossy, waxy surface and pointed tips?
4. Why are decomposers vital to the food web in the jungle?
5. Why is the forest floor relatively infertile?
6. Explain why, in the jungle, perspiring is ineffective.
7. The death and fall of an old tree is a beginning as well as an end. Explain.
8. List at least two camouflage disguises used by animals in the jungle.
9. Why are termites a crucial link in the flow of nutrients from one organism to another? Explain.

HOME DISCUSSION

The Waorani Indians of Ecuador had no contact with the outside world until about three years ago. They had lived in close harmony with the jungle for several thousand years, taking from it everything they needed to survive. How do you think contact with the outside world will affect the Waorani society?

Some people suggest that tribal peoples who have had no contact with the outside world should be protected from such contact because the rapid changes can destroy their societies. What do you think?